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Forest Service, United States Department of Agriculture

Allegheny Forest Experiment Station*

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ROCKY MT. FOREST & RANGE
EXPERIMENT STATION

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Technical Note No. 13.

3.106

FIRST YEAR LOSSES AFTER A FIRE MAY NOT REPRESENT TOTAL MORTALITY

Immediately following the disastrous 1930 fire season in southern New Jersey, ten plots were established at three widely separated localities within the burned area. Mortality data from these plots were furnished Prof. T. J. Starker who, with the consent of the Station, published those concerning trees 6 inches d. b. h. and up first in the Forest Worker for May, 1932, and later in the Journal of Forestry for April, 1934.

All but one of these plots have now been abandoned, but additional mortality found in examinations made after 1930 have shown the necessity for revising the first-year figures. In the following table the 1930 mortality of all trees, 6 inches d. b. h. and larger, on the 10 plots is compared with the mortality in 1932.

Species	Total Trees	Trees Dead 1930		Trees Dead 1932	
	Number	Number	Percent	Number	Percent
Shortleaf Pine	44	8	18.2	28	63.6
Pitch Pine	107	29	27.1	46	43.0
Chestnut Oak	13	7	53.8	7	53.8
White Oak	92	52	56.5	64	67.4
Scarlet Oak	68	43	62.2	44	64.7
Black Oak	7	7	100.0	7	100.0
Total	331	146	44.1	196	59.2

It will be noted that no additional chestnut oak died, only one more scarlet oak, and 12 more white oaks. Shortleaf pine, which had been considered most fire resistant in 1930, lost 20 additional trees, and dropped to third place in fire resistance; pitch pine, although losing 17 additional trees, moved up to first place. Of the trees below 6 inches d.b.h., 55 additional died, 25 of which were oaks and 30 pines. For all diameter classes total mortality increased from 76% in 1930 to 82% in 1932.

The one plot still in existence was reexamined in 1936. Three more black oaks and 10 more white oaks, all under 6 inches d.b.h., have died since 1932. This has increased the total mortality on the plot from 19.0 per cent in 1930 to 34.3 per cent in 1936.

On all plots most of the additional loss since 1930 occurred among those trees considered severely injured at that time. However, a few trees apparently lightly damaged in 1930 also died later.

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Some additional losses are to be expected because many of the surviving hardwoods are catfaced and heart rots almost invariably enter these wounds. Eventually some of the surviving trees will be so weakened by decay at the base that they will be broken off during high winds.

May 29, 1936.

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